



March 15, 2023

Dr. Cheryl Laskowski
Chief, Low Carbon Fuel Standard
California Air Resources Board
1001 I Street, Sacramento, CA 95814
Submitted electronically via helpline@arb.ca.gov

RE: Comments on Potential LCFS Program Changes Presented at the February 22, 2023 Public Workshop

Dear Dr. Laskowski,

Thank you to the California Air Resources Board (CARB) for soliciting stakeholder input on the comment on potential changes to the California Low Carbon Fuel Standard (LCFS).

Pacific Environment is a 501(c)(3) public-benefit corporation, headquartered in San Francisco, with regional offices in Anchorage, Alaska, and Chongqing, China. Pacific Environment has earned rare permanent consultative status at the International Maritime Organization (IMO), the United Nations' entity that sets international shipping law. At the IMO, Pacific Environment has played a lead role in advocating for a new international regulatory regime (called the "Polar Code") to regulate ship traffic, pollutant emissions, and waste dumping in Arctic waters.

Starting January this year, both CARB's Commercial Harbor Craft (CHC) rule which requires ferries and excursion vessels to go zero emission and other regulated harbor craft to go to tier 4 engine, and CARB's Updated Ocean Going Vessel At Berth regulation went into effect which requires container, reefer, and cruise vessels to plug into shorepower.

CARB's CHC regulation has a technology forcing effect on harbor craft vessel design and operations and LCFS credits will be important to help finance a successful transition to decarbonization. CARB lists "Shore Power to Ocean Going Vessels at-berth (eOGV)" as eligible for LCFS crediting. However, at this time if a port, vessel owner or other energy supplier were to build a station to dispense green hydrogen or electricity to a ZEV harbor craft vessel, they would not be eligible to receive LCFS credits. Currently, ZEV commercial harbor craft cannot generate infrastructure credits as this provision is limited to light-duty hydrogen refueling stations and DC fast chargers. Also, there is not a provision in the LCFS regulation for entities to generate credits for shore power to CHC. **We would urge CARB to update the regulation apply to shore power installations serving electrified harbor craft and for dispensing renewable hydrogen as well.**

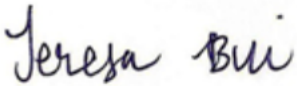
According to 95482(d), the LCFS does not apply to transportation fuel used Ocean-going vessels, as defined in CCR, title 17, section 93118.5(d). CARB does have the authority to regulate and incentivize fuels: in 2007 CARB passed the world's first sulfur emissions cap on maritime fuels. This regulation successfully reduced sulfur emissions from ships in California by over 90%. The United Nations eventually adopted a global version of this regulation in 2020. **We urge CARB to update the LCFS to allow for credits for zero emission transportation fuels used for ships such as green hydrogen.**

Green hydrogen is showing great promise as a zero emission fuel for shipping. An International Council on Clean Transportation study shows the potential of using hydrogen fuel cells to power container ships servicing a busy corridor between China and the United States¹. According to that analysis, 99% of the voyages made in 2015 could be powered by hydrogen with only minor changes to fuel capacity or operations, by replacing 5% of cargo space with more hydrogen fuel or by adding one additional port of call to refuel.

There's major efforts to decarbonize the shipping industry underway. Cargo owners like Amazon, Target and IKEA have [committed](#) to 100% zero-carbon shipping by 2040 and container companies including Maersk, Hapag Lloyd, and HHM [responded](#) that they're ready. Financial incentives are needed to accelerate the transition and help save lives.

Thank you for your consideration of these comments. I look forward to continued participation and discussion.

Sincerely,

A handwritten signature in dark ink that reads "Teresa Bui". The signature is written in a cursive, flowing style.

Teresa Bui
State Climate Policy Director

¹ [Liquid hydrogen refueling infrastructure to support a zero-emission U.S.–China container shipping corridor - International Council on Clean Transportation \(theicct.org\)](https://theicct.org/publications/liquid-hydrogen-refueling-infrastructure-to-support-a-zero-emission-u.s.-china-container-shipping-corridor)